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AUTHOR Turner, Walter L.
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ABSTRACT

To break out of the mold of the modern college compartmentalized setting, alliances can and must be formed between different disciplines on campus. Knowledge the students gain from the differing perspectives will enhance their ability to communicate; oral and written communication; and effective listening have been identified as factors that help graduating college students obtain employment. Based on 20 years experience in the computer industry, the following industry-based "rules" may serve to promulgate alliances: maintain confidences; honor and remember agreements; find "win-win" situations; recognize limitations; recognize the expertise of others; do not "burn your bridges"; do not accept every rule as iron clad; learn enough of the language to communicate; remember that not everyone loves and understands your field; and get to know people as individuals. The Computer Information Sciences (CIS) department at Mars Hill College has developed alliances with four other departments and five administrative groups by applying these "rules." These alliances have resulted in a better program for the CIS students and a better situation for the other portion of the alliances. Each alliance has a direct or indirect benefit to students and will, in turn, strengthen their ability to cope with the world of the future. (RS)

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Applying Lessons from Industry to Intra-Campus Alliances

Walter L. Turner, Department Coordinator
Computer Information Science
Mars Hill College
704-689-1323
wturner@mhc.edu

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The world faced by college graduates is becoming more complex and will continue to become so. The amount of information to be digested and correlated in all fields of endeavor is becoming overwhelming. Tomorrow's graduates can expect to change jobs several times, return frequently for more education and even change their career at least once.

The 1970's and early 80's was a time of great emphasis on the specialist. Corporations placed a great deal of importance on individuals who were highly skilled with a narrow focus. In computer parlance this could be called "high intensity with a corresponding sacrifice in bandwidth". Only recently has industry begun to recognize the value of the individual who has a knowledge of many things and the ability to correlate information in many different realms of expertise while keeping the "big picture" in focus. Downsizing, with an emphasis on process re-engineering is changing the way businesses work – from compartmentalized entities to teams without walls.

Likewise, the modern model for colleges of compartmentalization will not continue to work into the next century. Students must be made to see the interrelationships between disciplines and the synergistic effects of working in interdisciplinary teams, i.e. groups of specialists whose expertise lies in different fields of expertise. Major software vendors are moving to the team approach wherein small teams consisting of testers, writers, designers and programmers work together to produce a product. This results in much greater productivity, partially due to synergy and partially due to the ability to bring all types of expertise to bear on a problem and quickly solve it.

To break out of the mold of the modern college setting, alliances can and must be formed between different disciplines on campus. This will allow all resources to be brought to bear to produce students that will be effective once they leave our sheltered world where experimentation and mistakes are more readily tolerated. Knowledge the students gain from the differing perspectives will also enhance their ability to communicate. In computer terms: "both their input and output will be strengthened". Oral and written communication (output) and effective listening (input) have been identified as three of the top four factors that help graduating college students obtain employment. [Curtis,1989]

I would like to apply some experiences, that I have learned from in over 20 years in the computer industry, to the formation of campus alliances for the betterment of our students. First, I will propose some industry-based "rules" that may serve to promulgate alliances. Then I will share some of the results achieved at Mars Hill College through application of these rules.

Industry Rules to Assist With Alliances

Maintain Confidences

It was my first software company. Our third customer wanted us to build them a custom accounting system. The project was too large for my company to accomplish alone. I enlisted the help of a sister company to write the software. We fell hopelessly behind schedule and the project was in jeopardy. Feeling the pressure and in an effort to protect itself, the sister company disclosed confidences to the customer about my company and our work. Some were in context and some were not. Understandably, the customer went into a panic. Before the day was out, we were. There were no more alliances with that sister company -- ever.

Alliances must be built on mutual trust.

Honor and Remember Agreements

Having bid on one large job, the contract had been won to install a multi-million dollar computer network spanning several states. I was the lead negotiator for our company to pin down the details (which should have been done before the signing). As we had session after session, we began to notice that the other side was having a great deal of difficulty recalling anything we had previously agreed to that was not 100% in their favor. The situation was going nowhere. Each negotiation session was like starting over. Finally, we put a recorder in the room and taped all conversations with a transcript furnished to each side. Both sides then had a week to provide any "edits" to what had been transcribed. As a result of the recordings, an amazing thing happened, the other side's memory improved and we quickly finished the negotiations.

Honoring and remembering agreements fosters not only understanding, but further agreements for both parties with which an alliance is being built.

Find Win-Win Situations

Currently, I'm serving as a consultant to a major telecommunications equipment firm. Over the last two years we have developed a software application for the distributors of the products made by the telecommunications equipment firm. The product is the perfect example of a win-win situation. The product is provided for a fraction of its development cost to the distributors. They are happy to have the product as it reduces their sales cycle time from about 3

weeks to as little as 1 hour. The telecommunications equipment firm is also happy as the product brings in more sales faster and promotes distributor loyalty. The product is successful and both sides win. Or, as Henry Calero puts it best, "Both parties also must feel that they have achieved the majority of their objectives. Since objectives differ, it is very possible for both parties to leave with this feeling." (p.57)

Alliances that are beneficial to both parties will continue to be renewed and expanded.

Recognize Your Limitations

Several years ago, I was the manager of a department for a company that developed banking transaction software. The company had been founded by three people and brought to the size of 50+ through their efforts. However, the skills needed to found a company were not the same as the skills to take a company to hundreds of employees world-wide. Unfortunately, the president and founder did not recognize his limitations. Until he came to realize that the problems of the company stemmed from his own limitations the company continued to flounder. Once he stepped aside, the company soared. This point of transition comes between the first 3-5 years for most companies. Many companies fail because the managerial skills are not adequate to the growth phase.

Recognizing one's limitations is a good basis for the beginnings of an alliance.

Recognize Expertise of Others

While functioning as a senior software designer, I had responsibility for the system side of the database. The database was mission critical and distributed to various sites around the world so it needed to be right. When I took my design to the senior database designer in charge of all databases it was rejected with prejudice. I began forming mental conceptions as to the competency of the senior database designer while he formed verbal conceptions as to my competency. An interesting thing happened – we started going to lunch. As we did we began to develop an appreciation in each other's expertise and abilities. We also noted that we had different perspectives as we came from different backgrounds. Next, we agreed to disagree and went on to solve the database issues.

Each department at a college has value inherent within itself. Few are run the way others are and fewer have the same objectives, goals and policies. Building on the strengths of more than one department and recognizing that you (and your department) can't have expertise in all areas is fundamental to developing an alliance. Alliances for pure political expediency are doomed as they don't recognize, in a realistic manner, the expertise in others.

Don't Burn Bridges Policy

Many people in the computer industry change jobs every 3 to 5 years. Consultants move to other jobs even more frequently. This is the recognized way to advance – crazy but true. Because of this, even in a large city the computer community becomes very small. I was constantly running into people I knew from some previous job.

Like the computer industry, a college campus is a very small community. Alliances that failed because of you will impede your next alliance. Conversely, successful alliances will lead to other alliances.

Don't Accept every Rule as Iron Clad

On one occasion, I was the leader of a software development team with an impossible deadline. We had to develop a working prototype of a software product of sufficient quality that it could be demonstrated to the Undersecretary of Defense in 4 months. People within our firm starting coming to me and telling me how hopeless my task was. I searched the company and found people who thought it could be done. They didn't accept the way the company developed software as the only way to develop software. Our team then proceeded to break the rules. While the company used one language to develop software, we selected another that was faster. The company developed all its own software. We searched the country to find existing software that we could integrate into the project. They used a different department to complete each step of the development. We trained so that all development steps could be completed within the team.

The end result was a prototype that surpassed all expectations, on time and error free. The contract was won from the government and the company was happy. Had we accepted every rule as iron clad, we would still be working on that prototype.

Don't accept rules of working with other departments from the past or past experiences. Don't be afraid to experiment with new rules and to overlook the past when forming alliances.

Learn Enough of the Language to Communicate

Throughout my professional career, I have successfully produced software for the following markets: telecommunications, banking, small government, retail grocery, logistics, hospital and nursing home. In the course of designing and producing software for these markets I have made successful presentations to various groups from mom & pop grocery stores to the board of directors of major corporations. None of the audiences learned computer jargon in preparation for my presentation. Instead, I learned the terms and relevant factors in their industry before presenting. The result was a presentation in their language with emphasis on the items of concern to them.

The more you know about another curriculum, its vocabulary and what the driving factors are for that department, the easier it is to present an alliance that will be well received.

Not Everyone Loves and Understands Your Field

There was one occasion when we had a customer in the warehousing business. He was very successful. It appeared he make money very easily and in large quantities. One day, I received a call from this tycoon claiming that our software didn't work. After the error code was determined and I looked up the error, I discovered the tycoon had placed the diskette in the computer upside down. Pondering upon this experience, I was led to the inescapable conclusion that not everyone loved or understood computers – yet it was possible to be successful in spite to this very obvious handicap.

Preparation

One of my favorite stories is about the day my boss demoed his first IBM PC to a customer. He had been selling and programming IBM computers for years. They all had a big ON/OFF switch on the front. The boss began the demo just as smooth as usual, but about midway through the demo, I found him whispering hurriedly in my ear – asking where the ON switch was. You see, IBM moved the ON/OFF switch to the side of the new PC's and somebody forgot to check.

A little preparation goes a long way towards developing an alliance.

Get to Know People as Individuals

One day, I was getting on the elevator at a software development company. Inside, I made a remark to a fellow passenger, a person I didn't know. Unbeknownst to me, he was having an extremely bad day. His reaction to my remark was the equivalent of responding to a paper wad thrown at you by lobbing back a grenade. I wasn't sure we were going to make it through the elevator ride. Later I made inquiries about the man and found the incident of the elevator was out of character with his reputation. Further inquiries led to a picture of someone of great competence. Deciding to overlook the incident, I later requested that individual to work on a software development team I was putting together. In the end we got to know each other, became friends and went on to have a successful project together.

Alliances are not really between departments and divisions, they are between people. Those people have lives, hopes and goals. The better you know the participants as individuals the easier it is to see beyond professional disagreements and forge strong alliances.

Mars Hill College Alliances

In the last year, the Computer Information Sciences (CIS) department at Mars Hill College has developed alliances with four other departments and five administrative groups by applying the "rules" we have just discussed. These alliances have resulted in a better program for the CIS students and a better situation for the other portion of the alliances. Each of the alliances is summarized as follows:

With the English Department

- Two English professors have assisted CIS by helping teach CIS majors technical writing techniques within a CIS computer design class that utilized writing.
- The CIS department is helping one English professor with development suggestions for an Internet home page.
- Another English professor will be taking the CIS class, next semester, that gives instruction in creating Internet home pages.

- The English department has added a technical writing class. This is now required for all CIS majors and must be taken prior to or concurrent with the CIS computer design class that involves technical writing.

- One CIS professor, who had done much in the way of professional writing for industry, spoke to graduating English majors about job opportunities in technical writing.

- A CIS professor is assisting the English department with applying for a technology grant.

With the Art Department

- The CIS department will be putting a preliminary display of artwork on the Internet for the Art department. Next semester we will be training art students how to put art work on the Internet themselves.

With the Art and Communication Departments

- Discussions are underway on how the three departments (Art, Commun - ication, and CIS) can best combine expertise to support multimedia training for students in each of the three disciplines.

With the Communication Department

- Two classes, one in the CIS department and one in the Communication department have been linked. Communication majors are encouraged to be in both at the same time. We are currently exploring how to link assignments between the two classes for Communication majors. This would mean that when students learn about a communication concept that they are being given the mechanism in the computer class to use in creating the communication.

- We are exploring how CIS students can take a communications class covering making presentations without having to take three communications classes to get to that level. (Not enough room in the CIS major to squeeze in 3 Communication classes.)

- A professor in the CIS department has consented to giving a paper on building alliances at the National Speech Communication Association Convention and to serve on a panel chaired by a member of our Communication department.

With the Business Department

- Currently discussions are underway to eliminate duplication of classes between CIS and Business.

- The Business department and CIS are discussing whether other CIS courses would be of benefit to business majors and adjustments if any that would be needed.

- The Business department is cosponsoring, with the CIS department, a proposal for all students to be required to take a computer fundamentals class within the first 1 to 2 semesters at MHC. This would allow all curriculums to build on what would become standard student knowledge.

- The CIS department trained four business students who are now creating an Internet home page for the local arboretum.

With Administration - Marketing

- A CIS class developed slide shows for prospective students about what they liked best about Mars Hill College. The Marketing group was invited to review these slide shows. This gave the students feedback and the Marketing group ideas.

- The Marketing group brought an outside graphics firm to view the CIS class slides. Later this semester, the outside graphics firm will present to the CIS class.

With Administration - Strategic Planning

- The CIS department has arranged for one of its students to assist in creating slides for the planning process.

- One of the CIS professors is chairing the Technology Planning Task Force for the Strategic Planning group.

With Administration - Computer Services

- The CIS department administers one of the campus computer labs.

- The Computer Services group and the CIS department work closely to introduce new software and to cope with inquisitive computer students.

With Administration - Library Resources

- A member of the CIS department team teaches a CIS class with the individual over library resources.
- Library personnel have introduced the library computer searches to CIS classes.
- Library personnel are taking a CIS class for Internet home page creation.

With Administration - Others

- A CIS class is designing a database to assist the Continuing Education administrative group.
- Two members of the Upward Bound group are taking two different CIS classes.
- A member of the CIS department has assisted the Upward Bound group with software training.
- The CIS department has worked with the Media Center on future plans and with regard to equipment acquisition and divestiture.

Across Campus

- The students in a computer design class interviewed professors across the campus in 9 different departments and went on to design a grading and rostering system for the campus.
- The CIS department was instrumental in starting an Employment Day wherein students can meet executives and get advice on seeking jobs, career advancement, ethical dilemmas, etc.. This event was planned and executed with help from the: Math, Business, and Communication departments along with the Marketing and Student Services administrative groups. Over 25 professors from almost every department on campus participated in the event. The event is already planned for 1997.

Conclusion

Building alliances is not easy but it is worth it. By applying the rules presented earlier, the CIS department at Mars Hill College has been able to forge many alliances in a short period of time. Each alliance has a direct or indirect benefit to students and will, in turn, strengthen their ability to cope with the world of the future.

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